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| | Filing Date | | 2007-11-02 |
| | First Named Inventor | Klaus-Robert Muller | |
| | Art Unit | 2624 | |
| | Examiner Name | David Robert Vincent | |
| Attorney Docket Number | | 4385-060219 | |

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| | 8 | S. MUKKAMALA et al.; "Intrusion Detection Using Neural Networks and Support Vector Machines"; 2002; pages 1702-1707; Proceedings of the 2002 International Joint Conference on Neural Networks, sections III and IV; XP-002316051. | <input type="checkbox"/> |
| | 9 | B. V. NGUYEN; "An Application of Support Vector Machines to Anomaly Detection"; September, 2002; Final Project for CS681 Research in Computer Science – Support Vector Machines – Fall 2002; XP-002316052. | <input type="checkbox"/> |

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|----|---|--------------------------|
| 10 | F. DESOBRY et al.; "Support Vector-Based Online Detection of Abrupt Changes"; April 6, 2003, April 10, 2003; pages IV872-IV875; 2003 IEEE International Conference on Acoustics, Speech, and signal Processing ICASSP 2003, sections 103; XP-010641299. | <input type="checkbox"/> |
| 11 | D. ACHLIOPTAS et al.; "Sampling Techniques for Kernel Methods"; 2002; pages: 335-341; Advances in Neural Information Processing Systems; vol. 14. | <input type="checkbox"/> |
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| 17 | J. KIVINEN et al.; "Online learning with kernels"; 2001; pages: 785-792; Advances in Neural Inf. Proc. Systems (NIPS 01). | <input type="checkbox"/> |
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| 20 | M. MARTIN; "On-line Support Vector Machines for function approximation"; 2002, Techn. Report, Universitat Politècnica de Catalunya, Departament de Llenguatges i Sistemes Informàtics. | <input type="checkbox"/> |

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|----|--|--------------------------|
| 21 | M. MOYA et al.; "Network constraints and multi-objective optimization for one-class Classification"; 1996; pages: 463-474; Neural Networks, vol. 9, no. 3. | <input type="checkbox"/> |
| 22 | L. RALAIVOLA et al.; "Incremental Support Vector Machine Learning: A Local Approach"; 2001; pages: 322-329; Lecture Notes in Computer Science, vol. 2130. | <input type="checkbox"/> |
| 23 | S. RÜPING; "Incremental learning with support vector machines"; 2002; Techn. Report TR-18, Universität Dortmund, SFB475. | <input type="checkbox"/> |
| 24 | B. SCHÖLKOPF et al.; "Estimating the support of a high-dimensional distribution"; 2001; pages: 1443-1471; Neural Computation, vol. 13, no. 7. | <input type="checkbox"/> |
| 25 | B. SCHÖLKOPF et al.; "New Support Vector Algorithms"; 2000; pages: 1207-1245; Neural Computation; vol. 12 also NeuroCOLT Technical Report NC-TR-1998-031. | <input type="checkbox"/> |
| 26 | A. SMOLA et al.; "Sparse greedy matrix approximation for machine learning"; 2000; pages: 911-918; Proc. ICML'00, San Francisco: Morgan Kaufmann. | <input type="checkbox"/> |
| 27 | N.A. SYED et al.; "Incremental learning with support vector machines"; 1999; SVM workshop, IJCAI. | <input type="checkbox"/> |
| 28 | D. TAX et al.; "Uniform object generation for optimizing one-class classifiers"; 2001; pages: 155-173; Journal for Machine Learning Research. | <input type="checkbox"/> |
| 29 | D. BARBARÁ et al.; "ADAM: Detecting intrusions by data mining"; 2001; pages: 11-16; Proc. IEEE Workshop on Information Assurance and Security. | <input type="checkbox"/> |
| 30 | D. DENNING; "An intrusion-detection model"; 1987; pages: 222-232; IEEE Transactions on Software Engineering. | <input type="checkbox"/> |
| 31 | C. DOWELL et al.; "The Computer Watch data reduction tool"; 1990; pages: 99-108; Proc. 13th National Computer Security Conference. | <input type="checkbox"/> |

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| 32 | E. ESKIN et al.; "A geometric framework for unsupervised anomaly detection: detecting intrusions in unlabeled data"; a Chapter of Applications of Data Mining in Computer Security, 2002; Kluwer. | <input type="checkbox"/> |
| 33 | R. JAGANNATHAN et al.; "Next-generation intrusion detection expert system (NIDES)"; 1993; Computer Science Laboratory, SRI International. | <input type="checkbox"/> |
| 34 | A. LAZAREVIC et al.; "A comparative study of anomaly detection schemes in network intrusion detection"; 2003; Proc. SIAM Conf. Data Mining. | <input type="checkbox"/> |
| 35 | G. LIEPINS et al.; "Intrusion detection: its role and validation"; 1992; pages: 347-355; Computers and Security, 11(4). | <input type="checkbox"/> |
| 36 | S. NOEL et al.; "Modern intrusion detection, data mining, and degrees of attack guilt"; a Chapter of Applications of Data Mining in Computer Security, 2002; Kluwer. | <input type="checkbox"/> |
| 37 | L. PORTNOY et al.; "Intrusion detection with unlabeled data using clustering"; 2001; Proc. ACM CSS Workshop on Data Mining Applied to Security. | <input type="checkbox"/> |
| 38 | B. SCHÖLKOPF et al.; "Input space vs. feature space in kernel-based methods"; September, 1999; pages: 1000-1017; IEEE Transactions on Neural Networks 10(5). | <input type="checkbox"/> |
| 39 | B. SCHÖLKOPF et al.; "Estimating the support of a high-dimensional distribution"; 2001; pages: 1443-1471; Neural Computation 13(7). | <input type="checkbox"/> |
| 40 | B. SCHÖLKOPF et al.; "Nonlinear component analysis as a kernel eigenvalue problem"; 1998; pages: 1299-1319; Neural Computation 10. | <input type="checkbox"/> |
| 41 | D. TAX et al.; "Data domain description by using support vectors"; 1999; pages: 251-256; Verleysen, M. (Hrsg.), Proc. ESANN, Brussels, D. Facto Press. | <input type="checkbox"/> |
| 42 | V. VAPNIK; "The nature of statistical learning theory"; 1995; pages: 138-146, Springer Verlag, New York. | <input type="checkbox"/> |

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